City of Bellevue
Development Services Department
Land Use Staff Report

Date of Receipt by Ecology:

SHORELINE MANAGEMENT ACT
DECISION ON SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT

File Number:	21-101407 WG
Proposal Name:	PSE Gas Main Extension
Proposal Address and Location:	Within the paved right-of-way of Lakehurst Ln SE between 4845 and 4885 Lakehurst Lane SE / 20-24N-5E
Water Body:	Lake Washington
Shoreline Environment Designation:	Shoreline Residential

Proposal Description:
Land Use review of a Shoreline Substantial Development Permit to install a 2" gas main extension approximately 200' within the paved right-of-way of Lakehurst Ln SE. The gas main will be extended from approximately 4855 Lakehurst Ln to the single-family residence located at 4885 Lakehurst Ln SE. The extension will tie into the existing 2" gas main in Lakehurst Ln with one (1) 5' x 7' cut in the paved right-of-way. To ensure correct placement of the 2" gas main extension, seven (7) 2' x 4' holes will be cut into the pavement. One (1) 3' x 5' window cut and one 8" radius pothole will also be cut into the paved right-of-way adjacent to 4885 Lakehurst to ensure correct placement of the gas line and avoid existing utilities in the project area. The gas main extension will result in approximately 23.8 cubic of cut/fill to make and fill the holes.

Applicant: ☐Applicant owns property
Erin Warren, Puget Sound Energy, PO Box 97034, Bellevue, WA 98009, 425-260-0252, erin.warren@pse.com

Applicant Representative:
Same as applicant.

Application Date:	January 14, 2021
Notice of Application Date:	March 25, 2021
Notice of Decision Date:	May 20, 2021

SEPA Determination: **Exempt per WAC 197-11-800(23)**

Decision on SSDP: **Approval with Conditions**

By: _____ for
Michael A. Brennan, Director
Development Services Department

The appeal period for a Shoreline Substantial Development Permit is 21 days from the "date of filing" with the Department of Ecology, as defined in RCW 90.58.140(6) and WAC 173-27-130. Appeal of the decision must be made to the Washington State Shoreline Hearings Board.

This permit is granted pursuant to the Shoreline Management Act of 1971 and nothing in this permit shall excuse the applicant from compliance with any other federal, state or local statutes, ordinances or regulations applicable to this project, but not inconsistent with the Shoreline Management Act (Chapter 90.58 RCW).

This permit may be rescinded pursuant to RCW 90.58.140(8) in the event the permittee fails to comply with the terms and conditions hereof. This permit approval will expire within two years of the date of filing unless the construction, use, or activity pursuant to this permit is commenced. Final expiration of this permit approval is five years from the date of filing. Request for extension of expiration is subject to LUC 20.25E.250.E.6.

Construction pursuant to this permit will not begin or is not authorized until twenty-one (21) days from the date of filing or until all review proceedings initiated within twenty-one (21) days from the date of such filing have terminated; except as provided in RCW 90.58.140(5) (A) (B) (C) (D).

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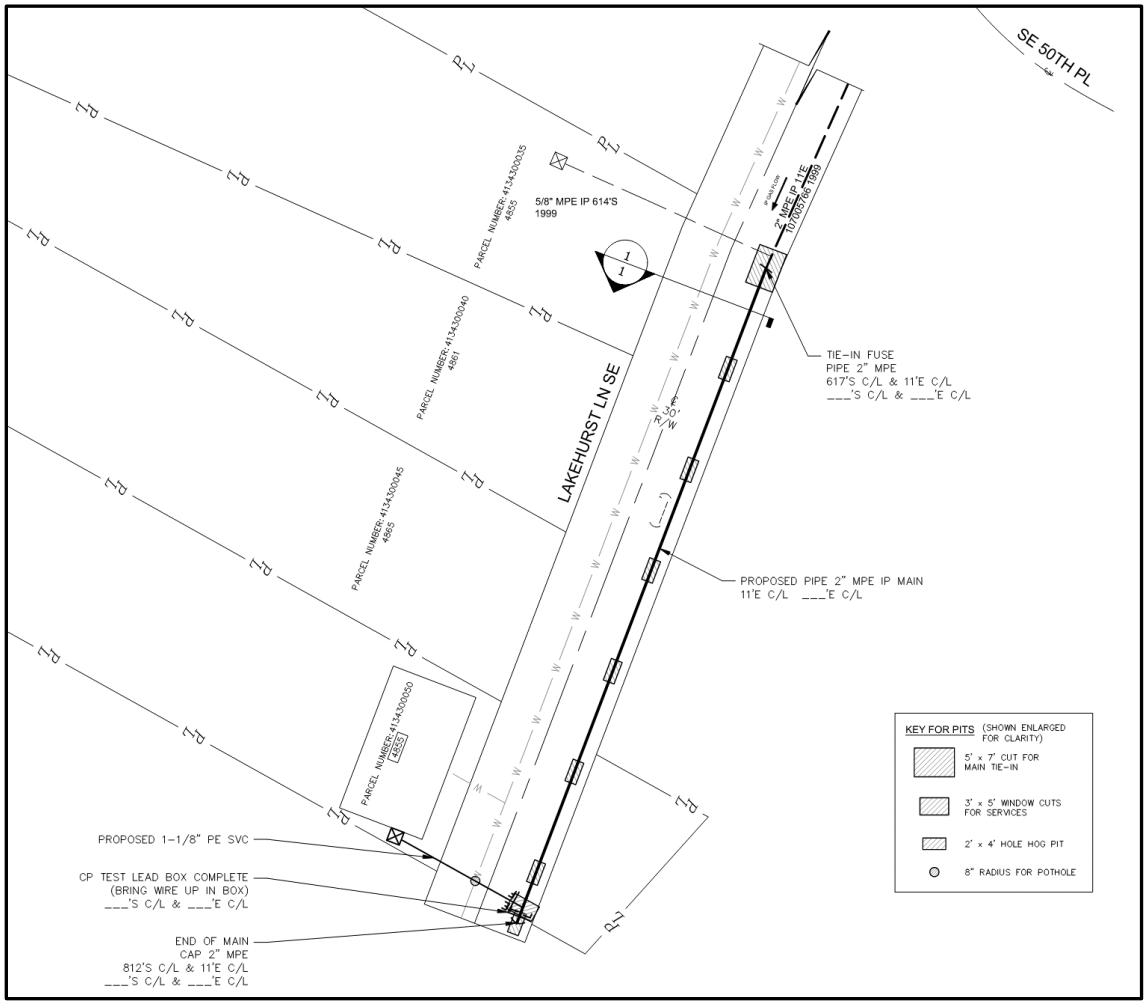
Attachments to this Decision

Project Plans

I. Proposal Description

Puget Sound Energy proposes to construct a 200-foot linear extension of the existing two-inch diameter gas main under Lakehurst Ln SE. The 2-inch gas main will be extended by boring under the road from approximately 4855 Lakehurst Ln to the single-family residence located at 4885 Lakehurst Ln SE. The extension will tie into the existing 2-inch gas main in Lakehurst Ln with one (1) 5' x 7' cut in the paved right-of-way. The new line will begin from this point and to ensure correct placement, seven (7) 2' x 4' pits will be cut into the pavement along the extension path. One (1) 3' x 5' window cut and one 8-inch radius pothole will also be cut into the road adjacent to 4885 Lakehurst to ensure correct placement of the gas line and avoid existing utilities in the project area. The gas main extension will result in approximately 23.8 cubic of cut/fill to make and fill the holes. The cost of the improvements exceeds the exempted construction value designated in LUC 20.25E.170.C.1 and WAC 173-27-040(2)(a); therefore, this proposals requires a Shoreline Substantial Development Permit and must comply with the requirements in Land Use Code 20.25E.070.E for Utilities. **See Attachment 1 for project plans and Figure 1 below for a depiction of the proposed work.**

Figure 1



II. Site Description, Zoning, Land Use Context and Shoreline Environment and Functions

A. Site Description

The project area is located in the paved right-of-way of Lakehurst Ln begin at 4588 Lakehurst Ln and extending to 4885 Lakehurst Ln, a distance of 200 feet. Lakehurst Ln is approximately 80 feet landward the ordinary high-water mark (OHWM) of Lake Washington within a shoreline environment designation of Shoreline Residential (SR). The project area and surrounding properties are developed with single-family residences. The singe-family residences are located between the OHWM and the road. There is little to no vegetation between the houses and the road. **See Figure 2 for existing site condition.**

Figure 2

B. Zoning and Land Use Context

The project area is located in the Single-Family Residential District (R-4). The surrounding properties are also zoned R-4 and development with single-family residences. The properties have a Comprehensive Plan Land Use Designation of Single-Family High Density (SF-H).

Figure 3

C. Shoreline Environment and Functions

The project area is in the Shoreline Residential (SR) shoreline environment designation but outside of the Aquatic environment. Per LUC 20.25E.010, the purpose of the shoreline residential environment is to accommodate single or multifamily residential development and appurtenant structures. A shoreline residential environment designation is assigned to Bellevue shorelands which are predominantly characterized by residential development or are planned for residential development and exhibit moderate to low levels of ecological functions because of historic shoreline modification activities.

Shorelines provide a variety of functions including shade, temperature control, water purification, woody debris recruitment, channel, bank and beach erosion, sediment delivery, and terrestrial-based food supply (Gregory et al. 1991; Naiman et al. 1993; Spence et al.1996). Shorelines provide a wide variety of functions related to aquatic and riparian habitat, flood control and water quality, economic resources, and recreation, among others. Each function is a product of physical, chemical, and biological processes at work within the overall landscape. In lakes, these processes take place within an integrated system (ecosystem) of coupled aquatic and riparian habitats (Schindler and Scheuerell 2002). Hence, it is important

to have an ecosystem approach which incorporates an understanding of shoreline functions and values.

III. Consistency with Land Use Code Requirements

A. Zoning District Dimensional Requirements:

No upland structures are proposed that are subject to zoning requirements. Proposal is located within the public right-of-way of Lakehurst Ln.

B. Shoreline Overlay District LUC 20.25E.065:

The property has frontage along Lake Washington and is within the Shoreline Overlay District which regulates areas within 200-feet of the Ordinary High Water Mark of shorelines identified in LUC 20.25E and the City's Shoreline Master Program. The Shoreline Overlay District regulations (LUC 20.25E) allow Utility facilities provided the applicable performance standards in LUC 20.25E.070.E are met.

i. Consistency with LUC 20.25E.070.E.2

General Requirements Applicable to All Utility Uses and Developments

Finding: The proposed gas main extension is located in the existing paved public right-of-way. No vegetation disturbance is associated with the proposed work. Cuts will be made into the paved right-of-way and restored to pre-project conditions once construction is complete. The excavation and fill will result in 23.8 cubic yards. The applicant is required to receive a right-of-way permit and any other applicable construction permits prior to commencement of the proposed work. **See Conditions of Approval regarding construction permits in Section X of this report.**

ii. Consistency with LUC 20.25E.070.E.4

Maintenance, Repair, and Minor Expansions of Utility Facilities shall comply with the following performance standards:

a. Maintenance, repair, and minor expansion activities shall be undertaken in a manner that would not preclude shoreline public access, consistent with the requirements contained in LUC 20.25E.060.I.

Finding: The proposed gas main extension is located in the existing paved public right-of-way and below grade. Proposal does not preclude shoreline access.

b. Where maintenance, repair, and minor expansion activities negatively impact the visual quality of the shoreline or surrounding neighborhood associated with the existing facility, screening and/or replacement landscaping shall be provided to maintain the shoreline aesthetic quality that existed before the activities were undertaken.

Finding: The proposed gas main extension is located in the paved public right-of-way and below grade. There is nothing visible that requires screening. All disturbance from construction is required to be restored to return the site to the condition that

existed prior to construction.

c. The nonconforming shoreline conditions provisions of LUC 20.25E.040 do not apply.
Finding: Not applicable

IV. Public Notice and Comment

Application Date:	January 14, 2021
Public Notice Date:	March 25, 2021
20-Day Comment Period End:	April 14, 2021

The Notice of Application for this project was published in the City of Bellevue weekly permit bulletin on March 25, 2021. It was mailed to property owners within 500 feet of the project site. No comments were submitted.

V. Summary of Technical Reviews

A. Clearing and Grading

The Clearing and Grading Division of the Development Services Department has reviewed the proposed site development for compliance with Clearing and Grading codes and standards and approved the application.

B. Utilities

The Utilities Department has reviewed the proposed site development for compliance with Utility codes and standards and approved the application.

VI. State Environmental Policy Act (SEPA)

The proposal is categorical exempt from threshold determination requirements, pursuant to WAC 197-11-800(23)(d) all natural gas distribution (as opposed to transmission) lines and necessary appurtenant facilities and hookups.

VII. Changes to Proposal Due to Staff Review

No changes were required to the proposed plans.

VIII. Decision Criteria

LUC 20.25E.160.D Shoreline Substantial Development Permit – Decision Criteria
The Director may approve, or approve with modifications a Shoreline Substantial Development Permit if:

1. **The proposal is consistent with the policies and procedures of the Shoreline Management Act.**

Finding: As evaluated, the proposal is consistent with applicable policies and procedures of the Shoreline Management Act (SMA). The SMA includes broad policies that give priority to water-dependent uses and activities. Utilities are specifically identified as an allowed use and facilitate other allowed uses.

2. **The proposal is consistent with the provisions of Chapter 173-27 WAC.**
   Finding: The proposal is consistent with 173-27 WAC as the applicant has applied for a Shoreline Substantial Development Permit and the proposal complies with the shoreline regulations in LUC 20.25E.

3. **The proposal is consistent with the SMP.**
   Finding: As evaluated in Section III of this report, the applicant has submitted project plans that demonstrate the proposal's consistency with the policies and procedures of the Shoreline Management Program (SMP).

4. **The proposal will be served by adequate public facilities including streets, fire protection, and utilities.**
   Finding: The proposal will expand existing gas utilities and does not impact other services or facilities.

5. **The proposal is consistent with the Bellevue Comprehensive Plan.**
   Finding: The Utilities Uses section of the Bellevue Shoreline Comprehensive Plan has the objective to "manage utility uses in the shoreline jurisdiction in accordance with the Shoreline Management Act". This proposal is consistent with that objective as the proposal requires a Shoreline Substantial Development Permit.

   The proposal is consistent with the City of Bellevue Shoreline Comprehensive Plan policies SH-72 and SH-76.

   POLICY SH-72. *Discourage new utility facilities (including underwater pipelines and cables) in the shoreline area and prohibit new utility facilities in the shoreline setback, shoreline wetlands and lands designated as shoreline aquatic except where there is no technically feasible alternative, and where impacts to ecological functions, in both the long-and-short-term, can be adequately mitigated. Priority shall be given to protecting the aquatic resource over the adjacent upland.*

   POLICY SH-76. *Incorporate best management practices into utility maintenance activities to protect shoreline and aquatic resources and regularly review and update practices to ensure best available practices meet or exceed accepted industry standards.*

   The proposed gas main extension is located within the existing paved right-of-way landward of the existing single-family residences. Best Management Practices (BMPs) and temporary erosion and sediment control measures will be utilized to ensure no estimate laden runoff will enter the waterway of Lake Washington.

6. **The proposal complies with applicable requirements of the Bellevue City Code.**
   Finding: As identified in Section III of this report the applicant has submitted project plans that demonstrate the proposal's compliance with the applicable City of Bellevue Codes and Standards.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the installation of a gas main extension line within the shoreline jurisdiction of Lake Washington in the paved right-of-way of Lakehurst Ln. **Approval of this Shoreline Substantial Development Permit does not constitute a permit for construction. Any future permits and plans are subject to review for compliance with applicable City of Bellevue codes and standards.**

Note- Expiration of Approval: In accordance with LUC 20.25E.250, the Shoreline Substantial Development Permit automatically expires and is void if the applicant fails to commence construction, use, or activity granted by the shoreline permit within two years of the effective date of the permit unless the applicant has received an extension for the Shoreline Substantial Development Permit pursuant to LUC 20.25E.250.

Permit authorization expires finally, despite commencement of construction, five years after the effective date of the Shoreline Substantial Development Permit unless the applicant has received an extension pursuant to LUC 20.25E.250.

X. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

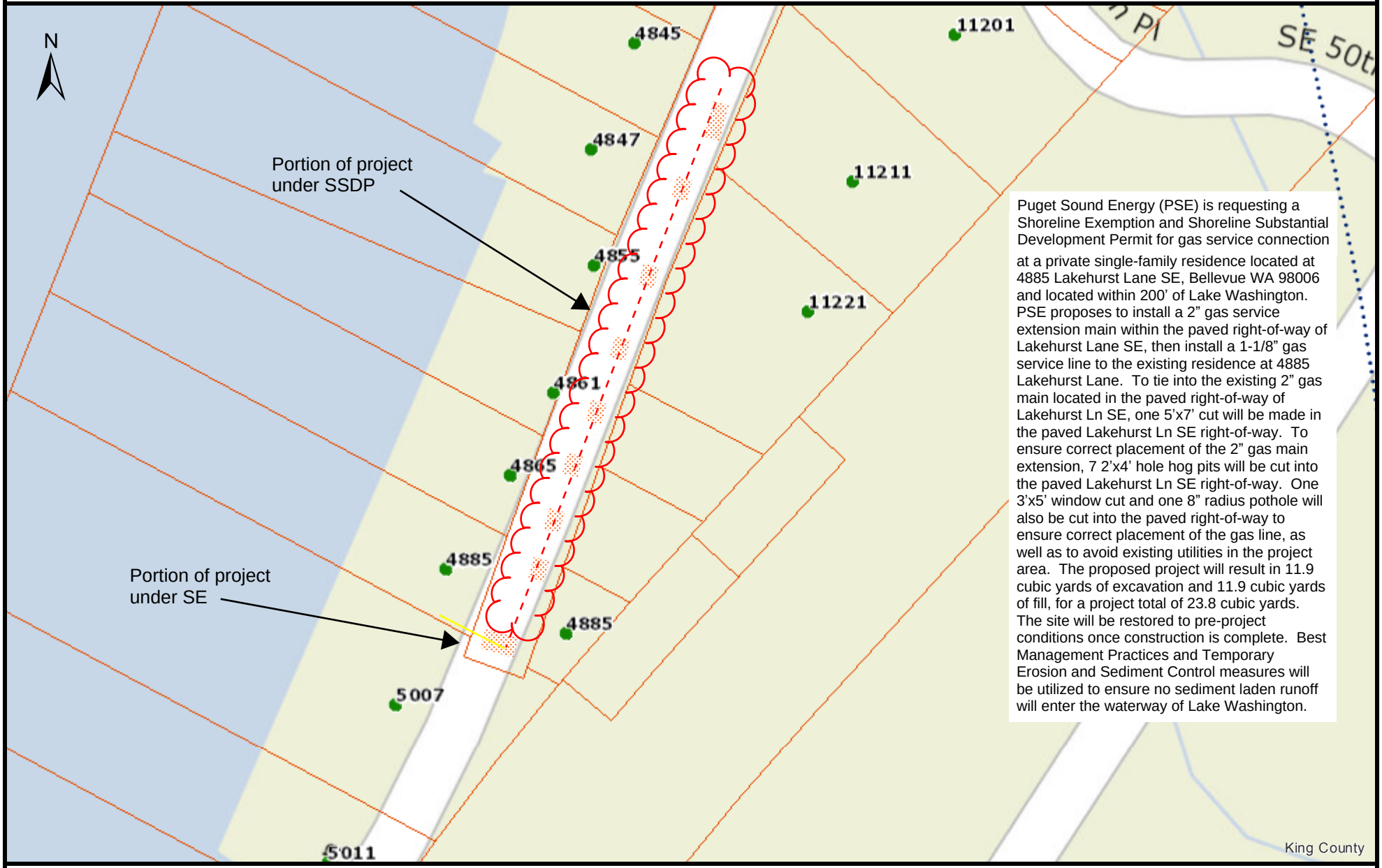
Applicable Ordinances	Contact Person
Clearing and Grading Code- BCC 23.76	Janey Gwo, 425-452-6190
Utilities – BCC Title 24	Jeremy Rosenlund, 425-452-7683
Land Use Code- BCC Title 20	Kennith George, 425-452-5264
Noise Control- BCC 9.18	Kennith George, 425-452-5264

The following conditions are imposed under the Bellevue City Code authority referenced:

1. **Construction Permits:** Applicant must receive any required construction permits prior to commencing with work associated with this Shoreline Substantial Development Permit.

   Authority: Land Use Code 20.25E.160
   Reviewer: Kennith George, Development Services Department

4885 Lakehurst Ln Gas Service



Puget Sound Energy (PSE) is requesting a Shoreline Exemption and Shoreline Substantial Development Permit for gas service connection at a private single-family residence located at 4885 Lakehurst Lane SE, Bellevue WA 98006 and located within 200' of Lake Washington. PSE proposes to install a 2" gas service extension main within the paved right-of-way of Lakehurst Lane SE, then install a 1-1/8" gas service line to the existing residence at 4885 Lakehurst Lane. To tie into the existing 2" gas main located in the paved right-of-way of Lakehurst Ln SE, one 5'x7' cut will be made in the paved Lakehurst Ln SE right-of-way. To ensure correct placement of the 2" gas main extension, 7 2'x4' hole hog pits will be cut into the paved Lakehurst Ln SE right-of-way. One 3'x5' window cut and one 8" radius pothole will also be cut into the paved right-of-way to ensure correct placement of the gas line, as well as to avoid existing utilities in the project area. The proposed project will result in 11.9 cubic yards of excavation and 11.9 cubic yards of fill, for a project total of 23.8 cubic yards. The site will be restored to pre-project conditions once construction is complete. Best Management Practices and Temporary Erosion and Sediment Control measures will be utilized to ensure no sediment laden runoff will enter the waterway of Lake Washington.

Date: 10/26/2020 Notes:

Surface cuts NTS

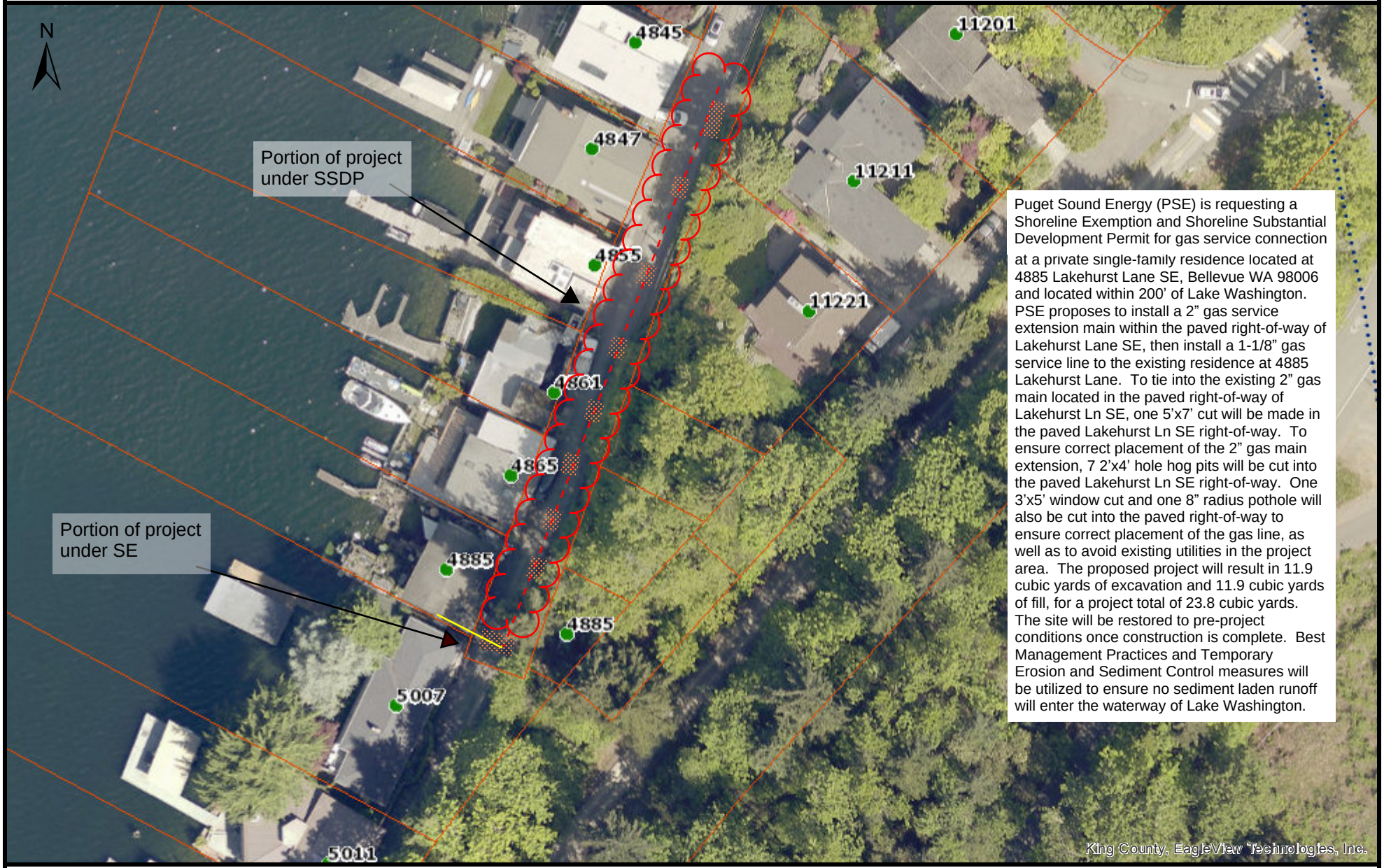
1-1/8" Gas Service Line

2" Gas Main Extension

This portion of project submitted as SSDP in Jan 2021 revision

King County

4885 Lakehurst Ln Gas Service



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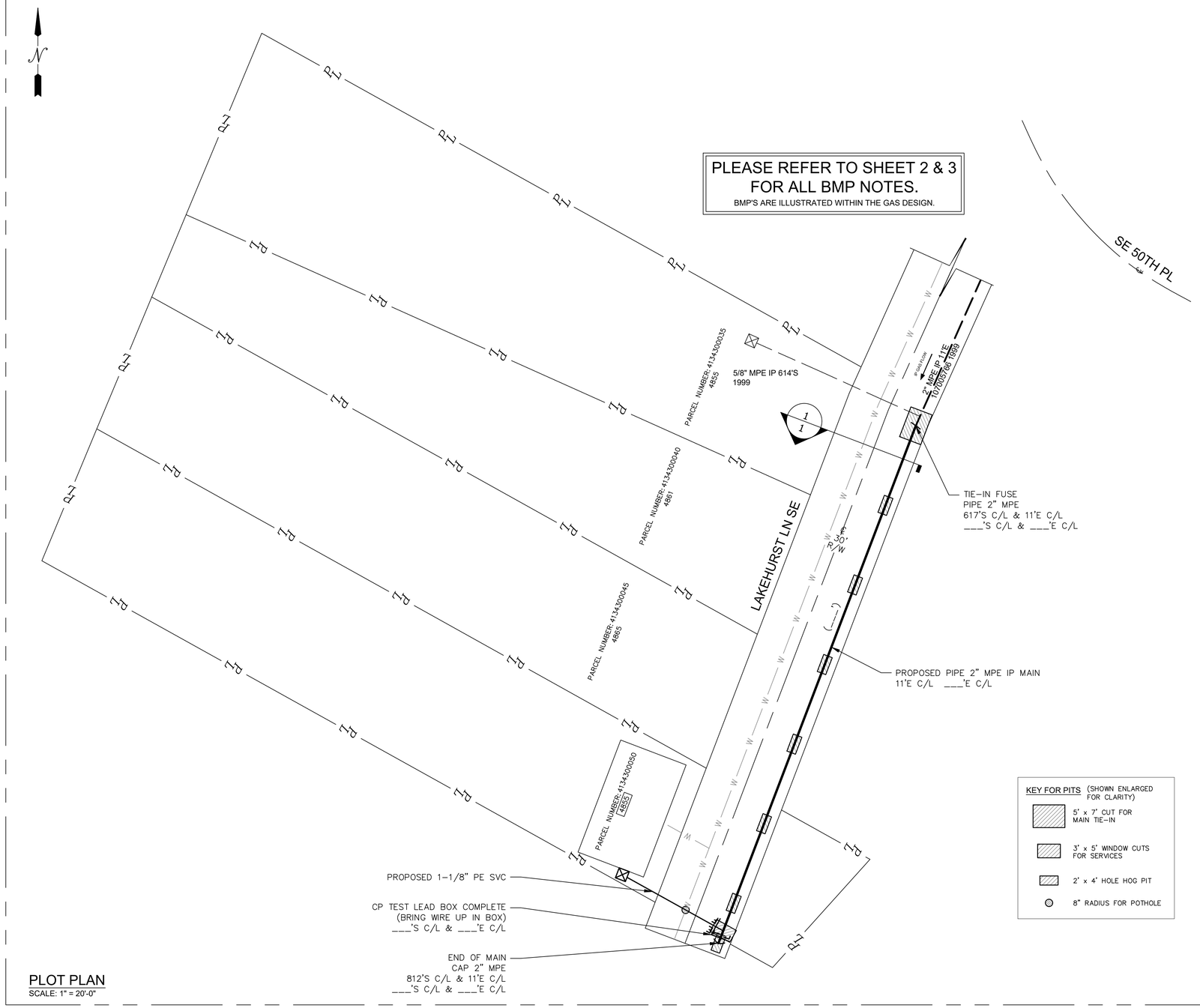
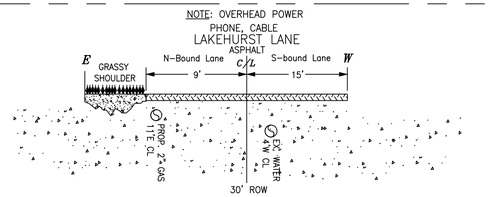
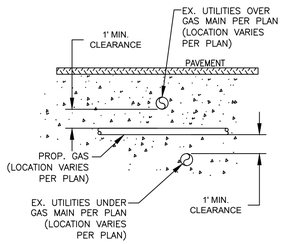


PLOT PLAN
SCALE: 1" = 20'-0"



1 ROADWAY CROSS-SECTION
Scale: N/A



MINIMUM CLEARANCE FROM OTHER UTILITIES:
HORIZONTAL: 5'
VERTICAL: 1'

STANDARD GAS CONSTRUCTION NOTES:

1. FIELD LOCATE ALL UNDERGROUND UTILITIES. EXCAVATOR TO CALL "ONE-CALL" TWO WORKING DAYS PRIOR TO TO CONSTRUCTION, IN WESTERN WASHINGTON CALL: 1-800-424-5555. OR CALL NATIONWIDE: 811
2. NOTIFY APPROPRIATE PERMITTING AGENCY PRIOR TO JOB START (SEE PERMIT REQUIREMENTS).
3. ALL CONSTRUCTION IS TO CONFORM TO PSE GAS OPERATING STANDARDS AND GAS FIELD PROCEDURES.
4. EROSION AND SEDIMENT CONTROL SHALL BE PER PSE STANDARD PRACTICE 0150.3200 TECHNIQUES FOR TEMPORARY EROSION AND SEDIMENT CONTROL AND ANY ADDITIONAL LOCAL JURISDICTION REQUIREMENTS.
5. NOTIFY PROPERTY OWNERS ADJACENT TO PROPOSED CONSTRUCTION ACTIVITIES A MINIMUM OF TWO WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION. USE IS TO DISTRIBUTE FLYERS IF JOB IS LARGE, OTHERWISE HAND DELIVER FLYERS BE SURE TO INCLUDE THE LIST OF FREQUENTLY ASKED QUESTIONS AND INFORMATION ABOUT THE OPPORTUNITY TO PURCHASE AN EXCESS FLOW VALVE WHEN THEIR SERVICE IS INSTALLED OR REPLACED PER GAS OPERATING STANDARD 2550.1600. ALLOW ADEQUATE TIME FOR CUSTOMER DECISION AND RESPONSE.
6. ANY CHANGE IN ROUTE, PIPE SIZE/TYPE, TIE-IN METHOD OR ADDITIONAL MAIN FOOTAGE MUST BE APPROVED BY THE APPROPRIATE PSE ENGINEER OR PSE REPRESENTATIVE.
7. COMPLETE "PIPE CONDITION REPORT" ON ALL METALLIC PSE FACILITIES. CHECK BOX ON REPORT FOR WIRE BOX (TEST LEAD) INSTALLATION.
8. PIPELINE MARKERS AND WARNING SIGNS SHALL BE INSTALLED AND RECORDED BY THE CONTRACTOR PER PSE GAS OPERATING STANDARD 2525.2500.
9. INSTALL MAIN VALVES OUT OF TRAFFIC WHERE POSSIBLE. VALVE MARKERS SHALL BE INSTALLED AND RECORDED BY THE CONTRACTOR PER PSE GAS OPERATING STANDARD 2525.2600 FOR ALL HP VALVES IF THE LOCATION IS NOT READILY ACCESSIBLE, AND FOR ALL VALVES WHERE PERSISTENT SNOWFALL MAY OBSCURE THE VALVE BOX.
10. TO PREVENT ACCIDENTAL OVERPRESSURE OF ADJOINING SYSTEMS, NO TWO MAINS SHALL BE CONNECTED EXCEPT AS SHOWN ON THIS DESIGN UNLESS APPROVED BY APPROPRIATE PSE ENGINEER OR PSE REPRESENTATIVE.
11. SYSTEM MAOP DENOTED BY: SYSTEM MAOP = 45 PSIG
12. GAUGE AND MONITOR USE OF ALL STOPPERS TO ENSURE ADEQUATE FEED.
13. RESTORE ALL DRIVEWAYS SUBJECT TO OPEN CUT TO ORIGINAL OR BETTER CONDITION.
14. PURGE POINTS AND PRESSURE TAPS TO BE INSTALLED PER PSE GAS OPERATING STANDARDS 2525.3300, AND 2525.1200.
15. MAINS AND SERVICES SHALL BE TESTED AND PURGED PER PSE GAS OPERATING STANDARDS 2525.3300 AND 2525.3400.
16. IF METALLIC PIPE IS INVOLVED, COORDINATE INSTALLATION WITH CP TECH. _____ ---------- _____, PHONE ---------- _____.
17. NOTE ALL ACTUAL FOOTAGE, LOCATION AND MATERIAL CHANGES ON THE AS-BUILT IN RED. (') DENOTES FOOTAGE BETWEEN FITTINGS.
18. EXCESS FLOW VALVE TO BE INSTALLED ON ALL NEW RESIDENTIAL SERVICES PER GOS 2500.2200. (RECORD ALL INFORMATION ON D-4 CARD)

GAS MAIN INSTALLATION/RETIREMENT

Type/Work	Pipe Size	Type	Est Length	Act Lgth	Manufacturer
INSTALL	2"	MPE	195'		

GASSED UP PIPELINE		
PIPE SEGMENT	FOREMAN'S NAME	DATE

Verify Testing Requirements, Chart vs Gauge
GOS 2525.3300 sec. 5, Table 5-1 and sec. 5.5

GAS MAIN PRESSURE & TESTING

TYPE TEST	☐ SOAP	☐ AIR	☐ NITROGEN	☐ WATER
DATE ON	/ /	START TIME		TESTED BY
DATE OFF	/ /	STOP TIME		
PRESSURE		TEST RESULTS	☐ P ☐ F	
TYPE TEST	☐ SOAP	☐ AIR	☐ NITROGEN	☐ WATER
DATE ON	/ /	START TIME		TESTED BY
DATE OFF	/ /	STOP TIME		
PRESSURE		TEST RESULTS	☐ P ☐ F	
☐ TESTED BY PSE PRESSURE CONTROL, SEE FORM 1928				
DESIGN PRESS	60	SYS MAOP	45	

2023 02/18

PROJECT PHASE		Notification #	Order #
GAS	SAP Superior	506457589	107059266
	Service/Meter	N/A	N/A
	Service/Meter	N/A	N/A
	Service/Meter	N/A	N/A
	Service/Meter	N/A	N/A
	Ind. Service	N/A	N/A
	Ind. MSA	N/A	N/A
	Dis. Reg. / FT	N/A	N/A
	HP Svc/MSA	N/A	N/A
	Relocate	N/A	N/A
	Retirement	N/A	106348221

Project Manager Contact Information:
Manager: ADAM ARMSTRONG
Cell Phone: 425-457-6758
E-Mail: adam.armstrong@pse.com

"Locates Required" Yes ☐ No ☐
"Flagging Required" Yes ☐ No ☐

Vicinity Map
N/A

107059266

Owner / Developer Contact Info

SUSAN LONG
4885 LAKEHURST LANE
BELLEVUE WA 98006
ATTN: SUSAN LONG 425-786-3352 office

For contacts below dial 1-888-CALL PSE (225-5773)

CALL 811 AT LEAST 2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF EXISTING FACILITIES

REAL ESTATE/EASEMENT	PERMIT #__-_____
N/A	BELLEVUE

REV#	DATE	BY	DESCRIPTION
3			
2			
1			

FUNCTION	CONTACT	PHONE NO	DATE
PROJECT MGR	A.ARMSTRONG	425-395-6326	
ENGR - GAS			
DRAWN BY	C.WESTHOFF	425-748-6323	1/9/20
CHECKED BY	J.MOSS	425-748-6345	1/9/20
APPROVED BY	A.ARMSTRONG	425-395-6326	.
CP APPROVAL			.
PC APPROVAL	.	.	.
MAPPING			

COUNTY	Emer Sect	GAS WK CTR
KING	24	CSPFGPM
1/4 SEC	OP MAP	PLAT MAP
NE-20-24-05	196.080	198.083

GRID NUMBER:_____

JOINT FACILITIES ARRANGEMENTS

UTILITIES	N/A	N/A	N/A	N/A
CONTACT	N/A	N/A	N/A	N/A
PHONE#	N/A	N/A	N/A	N/A

FITTER'S CHECKLIST (CHECK BOX TO CONFIRM COMPLETION)

- ☐ Inspected Steel and PE pipe per GOS 2450.1400 and 2450.1500
- ☐ Reviewed and complied with all construction notes.
- ☐ Recorded all required information on the as-built per GOS 2500.1700.
- ☐ Completed post installation inspection per GOS 2525.1200 and 2525.2700.
- ☐ Left the work area in a clean and safe condition.

Foreman's Signature_____

Foreman's Name (printed) _____

Company: _____ Date _____

4680 06/11

PUGET SOUND ENERGY

DESIGNED BY PSE

SUSAN LONG
2" MPE IP MAIN EXTENSION
4885 LAKEHURST LANE, BELLEVUE WA 98006

SAP Sup Order Nbr 107059266
Drawing Number
SCALE 1"=20' PAGE 1/3

Jun 09, 2020 - 2:08pm C:\pwworking\projectwise\cwesth\dms54436\ 107059266.dwg

STANDARD NOTES FOR EROSION CONTROL PLANS:

1. ALL CLEARING & GRADING CONSTRUCTION MUST BE IN ACCORDANCE WITH CITY OF BELLEVUE (COB) CLEARING & GRADING CODE, CLEARING & GRADING DEVELOPMENT STANDARDS, LAND USE CODE, UNIFORM BUILDING CODE, PERMIT CONDITIONS, AND ALL OTHER APPLICABLE CODES, ORDINANCES, AND STANDARDS. THE DESIGN ELEMENTS WITHIN THESE PLANS HAVE BEEN REVIEWED ACCORDING TO THESE REQUIREMENTS. ANY VARIANCE FROM ADOPTED EROSION CONTROL STANDARDS IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY OF BELLEVUE DEVELOPMENT SERVICES (DSD) PRIOR TO CONSTRUCTION.

IT SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT AND THE PROFESSIONAL CIVIL ENGINEER TO CORRECT ANY ERROR, OMISSION, OR VARIATION FROM THE ABOVE REQUIREMENTS FOUND IN THESE PLANS. ALL CORRECTIONS SHALL BE AT NO ADDITIONAL COST OR LIABILITY TO THE COB.

2. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)

3. A COPY OF THE APPROVED PLANS AND DRAWINGS MUST BE ON-SITE DURING CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER REQUIRED OR RELATED PERMITS PRIOR TO BEGINNING CONSTRUCTION.

4. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/ LANDSCAPING IS ESTABLISHED.

5. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.

6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.

7. ALL LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD, THEREFORE, BE CONSIDERED ONLY APPROXIMATE AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS AND TO DISCOVER AND AVOID ANY OTHER UTILITIES NO SHOWN WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.

8. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/ CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

9. CLEARING SHALL BE LIMITED TO THE AREAS WITHIN THE APPROVED DISTURBANCE LIMITS. EXPOSED SOILS MUST BE COVERED AT THE END OF EACH WORKING DAY WHEN WORKING FROM OCTOBER 1ST THROUGH APRIL 30TH. FROM MAY 1ST THROUGH SEPTEMBER 30TH, EXPOSED SOILS MUST BE COVERED AT THE END OF EACH CONSTRUCTION WEEK AND ALSO AT THE THREAT OF RAIN.

10. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

11. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT.

12. THE CONTRACTOR MUST MAINTAIN A SWEEPER ON SITE DURING EARTHWORK AND IMMEDIATELY REMOVE SOIL THAT HAS BEEN TRACKED ONTO PAVED AREAS AS RESULT OF CONSTRUCTION.

13. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

14. ANY EXCAVATED MATERIAL REMOVED FROM THE CONSTRUCTION SITE AND DEPOSITED ON PROPERTY WITHIN THE CITY LIMITS MUST BE DONE IN COMPLIANCE WITH A VALID CLEARING & GRADING PERMIT. LOCATIONS FOR THE MOBILIZATION AREA AND STOCKPILED MATERIAL MUST BE APPROVED BY THE CLEARING AND GRADING INSPECTOR AT LEAST 24 HOURS IN ADVANCE OF ANY STOCKPILING.

15. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT.

16. FINAL SITE GRADING MUST DIRECT DRAINAGE AWAY FROM ALL BUILDING STRUCTURES AT A MINIMUM 5% SLOPE, PER THE INTERNATIONAL RESIDENTIAL CODE (IRC) R401.3.

BMP C220: Storm Drain Inlet Protection ◆BMP: C220◆

Purpose:

To prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

Conditions of Use:

Where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. Protection should be provided for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless the runoff that enters the catch basin will be conveyed to a sediment pond or trap. Inlet protection may be used anywhere to protect the drainage system. It is likely that the drainage system will still require cleaning.

Design and Installation Specifications:

Excavated Drop Inlet Protection

An excavated impoundment around the storm drain. Sediment settles out of the stormwater prior to entering the storm drain.

- Depth 1-2 ft as measured from the crest of the inlet structure.
- Side Slopes of excavation no steeper than 2:1.
- Minimum volume of excavation 35 cubic yards.
- Shape basin to fit site with longest dimension oriented toward the longest inflow area.
- Install provisions for draining to prevent standing water problems.
- Clear the area of all debris.
- Grade the approach to the inlet uniformly.
- Drill weep holes into the side of the inlet.
- Protect weep holes with screen wire and washed aggregate.
- Seal weep holes when removing structure and stabilizing area.
- It may be necessary to build a temporary dike to the down slope side of the structure to prevent bypass flow.

Block and Gravel Filter

A barrier formed around the storm drain inlet with standard concrete blocks and gravel. See figure 4.14.

- Height 1-2 ft above inlet.
- Recess the first row 2 inches into the ground for stability.
- Support subsequent courses by placing a 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side for dewatering the pool.
- Place hardware cloth or comparable wire mesh with 1/2" openings over all block openings.
- Place gravel just below the top of blocks on slopes of 2:1 or flatter.
- An alternative design is a gravel donut.
- Inlet slope of 3:1.
- Outlet slope of 2:1.
- 1-foot wide level stone area between the structure and the inlet.
- Inlet slope stones 3" in diameter or larger.
- Outlet slope use gravel 1/2"-3/4" at a minimum thickness of 1 foot.

Gravel and Wire Mesh Filter

A gravel barrier placed over the top of the inlet. This structure does not provide an overflow.

- Hardware cloth or comparable wire mesh with 1/2" openings.
- Coarse aggregate.
- Height 1-foot or more, 18" wider than inlet on all sides.
- Place wire mesh over the drop inlet so that the wire extends a minimum of 1-foot beyond each side of the inlet structure.
- If more than one strip of mesh is necessary, overlap the strips.
- Place coarse aggregate over the wire mesh.
- The depth of the gravel should be at least 12" over the entire inlet opening and extend at least 18" on all sides.

Catchbasin filters

Catchbasin filters should be designed by the manufacturer for use at construction sites. The limited sediment storage capacity increases the amount of inspection and maintenance required, which may be daily for heavy sediment loads. The maintenance requirements can be reduced by combining a catchbasin filter with another type of inlet protection. This type of inlet protection provides flow bypass without overflow and therefore may be a better method for inlets located along active rights-of-way.

- 5 cubic feet of storage.
- Dewatering provisions.
- High-flow bypass that will not clog under normal use at a construction site.
- The catchbasin filter is inserted in the catchbasin just below the grating.

Curb Inlet Protection with Wooden Weir

Barrier formed around a curb inlet with a wooden frame and gravel.

- Wire mesh with 1/2" openings.
- Extra strength filter cloth.
- Construct a frame.
- Attach the wire and filter fabric to the frame.
- Pile coarse washed aggregate against wire/fabric.
- Place weight on frame anchors.

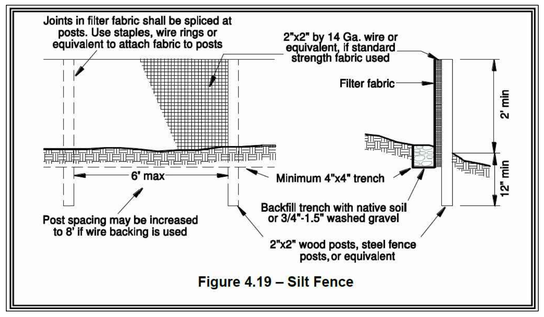


Figure 4.19 – Silt Fence

Block and Gravel Curb Inlet Protection

Barrier formed around an inlet with concrete blocks and gravel. See Figure 4.14.

- Wire mesh with 1/2" openings.
- Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are spacer blocks.
- Place a 2x4 stud through the outer holes of each spacer block to align the front blocks.
- Place blocks on their sides across the front of the inlet and abutting the spacer blocks.
- Place wire mesh over the outside vertical face.
- Pile coarse aggregate against the wire to the top of the barrier.

Curb and Gutter Sediment Barrier

Sandbag or rock berm (riprap and aggregate) 3 feet high and 3 feet wide in a horseshoe shape. See Figure 4.16.

- Construct a horseshoe shaped berm, faced with coarse aggregate if using riprap, 3 feet high and 3 feet wide, at least 2 feet from the inlet.
- Construct a horseshoe shaped sedimentation trap on the outside of the berm sized to sediment trap standards for protecting a culvert inlet.

Maintenance Standards:

- Catch basin filters should be inspected frequently, especially after storm events. If the insert becomes clogged, it should be cleaned or replaced.
- For systems using stone filters: If the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

BMP C152: Sawcutting and Surfacing Pollution Prevention ◆BMP: C152◆

Purpose:

Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. This BMP is intended to minimize and eliminate process water and slurry from entering waters of the State.

Conditions of Use:

Anytime sawcutting or surfacing operations take place, these management practices shall be utilized. Sawcutting and surfacing operations include, but are not limited to, the following:

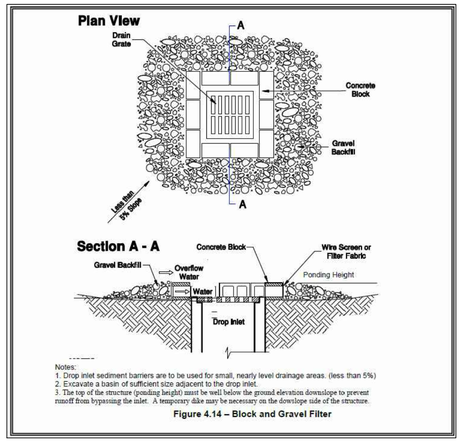
- Sawing
- Coring
- Grinding
- Roughening
- Hydro-demolition
- Bridge and road surfacing

Design and Installation Specifications:

- Slurry and cuttings shall be vacuumed during cutting and surfacing operations.
- Slurry and cuttings shall not remain on permanent concrete or asphalt pavement overnight.
- Slurry and cuttings shall not drain to any natural or constructed drainage conveyance.
- Collected slurry and cuttings shall be disposed of in a manner that does not violate groundwater or surface water quality standards.
- Process water that is generated during hydro-demolition, surface roughening or similar operations shall not drain to any natural or constructed drainage conveyance and shall be disposed of in a manner that does not violate groundwater or surface water quality standards.
- Cleaning waste material and demolition debris shall be handled and disposed of in a manner that does not cause contamination of water. If the area is swept with a pick-up sweeper, the material must be hauled out of the area to an appropriate disposal site.

Maintenance Standards:

Continually monitor operations to determine whether slurry, cuttings, or process water could enter waters of the state. If inspections show that a violation of water quality standards could occur, stop operations and immediately implement preventive measures such as berms, barriers, secondary containment, and vacuum trucks.



Notes:
1. Drop inlet sediment barriers are to be used for small, nearly level drainage areas. (less than 5%)
2. Excavate a basin of sufficient size adjacent to the drop inlet.
3. The top of the structure (ponding height) must be well below the ground elevation downslope to prevent runoff from bypassing the inlet. A temporary dike may be necessary on the downslope side of the structure.

Figure 4.14 – Block and Gravel Filter

BMP C233: Silt Fence ◆BMP: C233◆

Purpose:

Use of a silt fence reduces the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow. See Figure 4.19 for details on silt fence construction.

Conditions of Use:

Silt fence may be used downslope of all disturbed areas.

- Silt fence is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of over land flow. any concentrated flows must be conveyed through the drainage system to a sediment pond. The only circumstance in which overland flow can be treated solely by a silt fence, rather than by a sediment pond, is when the area draining to the fence is one acre or less and flow rates are less than 0.5 cfs.
- Silt fence should not be constructed in streams or used in V-shaped ditches. They are not an adequate method of silt control for anything deeper than sheet or overland flow.

Design and Installation Specifications:

- Drainage area of 1 acre or less or in combination with sediment basin in a larger site.
- Maximum slope steepness (normal (perpendicular) to fence line) 1:1.
- Maximum sheet or overland flow path length to the fence of 100 feet.
- No flows greater than 0.5 cfs.
- The geotextile used shall meet the following standards. All geotextile properties listed below are minimum average roll values (i.e., the test result for any sampled roll in a lot shall meet or exceed the values shown in Table 4.10):
- Standard strength fabrics shall be supported with wire mesh, chicken wire, 2"x2" wire, safety fence, or jute mesh to increase the strength of the fabric. Silt fence materials are available that have synthetic mesh backing attached.
- Filter fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F. to 120°F.
- 100 percent biodegradable silt fence is available that is strong, long lasting, and can be left in place after the project is completed, if permitted by local regulations.
- Standard Notes for construction plans and specifications follow. Refer to Figure 4.19 for standard silt fence details.

The contractor shall install and maintain temporary silt fences at the locations shown in the Plans. The silt fences shall be constructed in the areas of clearing, grading, or drainage prior to starting those activities. A silt fence shall not be considered temporary if the silt fence must function beyond the life of the contract. The silt fence shall prevent soil carried by runoff water from going beneath, through, or over the top of the silt fence, but shall allow the water to pass through the fence.
The minimum height of the top of silt fence shall be 2 feet and the maximum height shall be 2-1/2 feet above the original ground surface. The geotextile shall be sewn together at the point of manufacture, or at an approved location as determined by the Engineer, to form geotextile lengths as required. All sewn seams shall be located at a support post. Alternatively, two sections of silt fence can be overlapped, provided the Contractor can demonstrate, to the satisfaction of the Engineer, that the overlap is long enough and that the adjacent fence sections are close enough together to prevent silt laden water from escaping through the fence at the overlap.

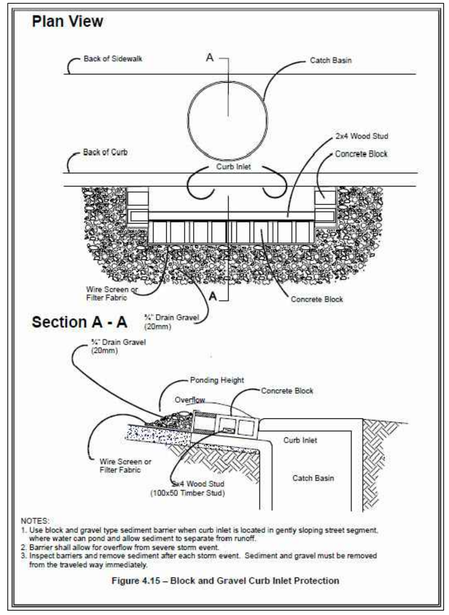
The geotextile shall be attached on the up-slope side of the posts and support system with staples, wire, or in accordance with the manufacturer's recommendations. The geotextile shall be attached to the posts in a manner that reduces the potential for geotextile tearing at the staples, or other connection device. Silt fence back-up support for the geotextile in the form of a wire of plastic mesh is dependent on the properties of the geotextile selected for use. If wire or plastic back-up mesh is used, the mesh shall be fastened securely to the up-slope of the posts with the geotextile being up-slope of the mesh back-up support.
The geotextile at the bottom of the fence shall be buried in a trench to a minimum depth of 4" below the ground surface. The trench shall be backfilled and the soil tamped in place over the buried portion of the geotextile, such that no flow can pass beneath the fence and scouring can not occur. When wire or polymeric back-up support mesh is used, the wire or polymeric mesh shall extend into the trench a minimum of 3".
The fence posts shall be placed or driven a minimum of 18". A minimum depth of 12" is allowed if topsoil or other soft subgrade soil is not present and a minimum depth of 18" cannot be reached. Fence post depths shall be increased by 6" if the fence is located on slopes of 3":1 or steeper and the slope is perpendicular to the fence. If required post depths cannot be obtained, the posts shall be adequately secured by bracing or guying to prevent overturning of the fence due to sediment loading.
Silt fences shall be located on contour as much as possible, except at the ends of the fence, where the fence shall be turned uphill such that the silt fence captures the runoff water and prevents water from flowing around the end of the fence.
If the fence must cross contours, with the exception of the ends of the fence, gravel check dams placed perpendicular to the back of the fence shall be used to minimize concentrated flow and erosion along the back of the fence. The gravel check dams shall be approximately 1-foot deep at the back of the fence. It shall be continued perpendicular to the fence at the same elevation until the top of the check dam intercepts the ground surface behind the fence. The gravel check dams shall consist of crushed surfacing base course, gravel backfill for walls, or shoulder ballast. The gravel check dams shall be located every 10 feet along the fence where the fence must cross contours. The slope of the fence line where contours must be crossed shall not be steeper than 3":1.
Wood, steel or equivalent posts shall be used. Wood posts shall have minimum dimensions of 2"x2"x3' minimum length, and shall be free of defects such as knots, splits, or gouges. Steel posts shall consist of either size No. 6 rebar or larger, ASTM A120 steel pipe with a minimum diameter of 1", U, T, L, or C shape steel posts with a minimum weight of 1.35 lbs./ft. or other steel posts having equivalent strength and bending resistance to the post sizes listed. The spacing of the support posts shall be a maximum of 6 feet. Fence back-up support, if used, shall consist of steel wire with a maximum mesh spacing of 2", or a prefabricated polymeric mesh. The strength of the wire or polymeric mesh shall be equivalent to or greater than 180 lbs. grab tensile strength. The polymeric mesh must be as resistant to ultraviolet radiation as the geotextile it supports.

- Silt fence installation using the slicing method specification details follow.

The base of both end posts must be at least 2 to 4 inches above the top of the silt fence fabric on the middle posts for ditch checks to drain properly. Use a hand level or string level, if necessary, to mark base points before installation.
Install posts 3 to 4 feet apart in critical retention areas and 6 to 7 feet apart in standard applications.
Install posts 24 inches deep on the downstream side of the silt fence, and as close as possible tot he fabric, enabling posts to support the fabric from upstream water pressure.
Install posts with the nipples facing away from the silt fence fabric.
Attach the fabric to each post with three ties, all spaced within the top 8" of the fabric.
Attach each tie diagonally 45 degrees through the fabric, with each puncture at least 1" vertically apart. In addition, each tie should be positioned to hang on a post nipple when tightening to prevent sagging.
Wrap approximately 6" of fabric around the end posts and secure with 3 ties.
No more than 24" of a 36" fabric is allowed above ground level.
The rope lock system must be used in all ditch check applications.
The Installation should be checked and corrected for any deviation before compaction. Use a flat-bladed shovel to tuck fabric deeper into the ground if necessary.
Compaction is vitally important for effective results. Compact the soil immediately next to the silt fence fabric with the front wheel of the tractor, skid steer, or roller exerting at least 60 pounds per square inch.
Compact the upstream side first and then each side twice for a total of four trips.

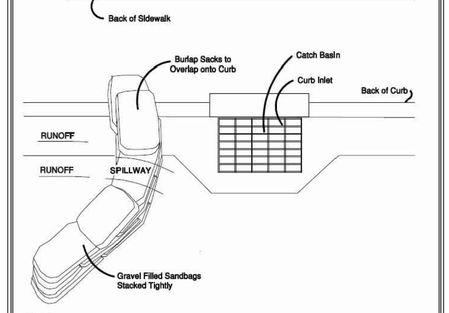
Maintenance Standards:

- Any damage shall be repaired immediately.
- If concentrated flows are evident uphill of the fence, they must be intercepted and conveyed to a sediment pond.
- It is important to check the uphill side of the fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence or remove the trapped sediment.



NOTES:
1. Use block and gravel type sediment barrier when curb inlet is located in gently sloping street segment, where water can pond and allow sediment to separate from runoff.
2. Barrier shall allow for overflow from severe storm event.
3. Inspect barriers and remove sediment after each storm event. Sediment and gravel must be removed from the traveled way immediately.

Figure 4.15 – Block and Gravel Curb Inlet Protection



NOTES:
1. Place curb type sediment barriers on gently sloping street segments, where water can pond and allow sediment to separate from runoff.
2. Sandbags of either burlap or woven `geotextile' fabric, are filled with gravel, layered and packed tightly.
3. Leave a one sandbag gap in the top row to provide a spillway for overflow.
4. Inspect barriers and remove sediment after each storm event. Sediment and gravel must be removed from the traveled way immediately.

Figure 4.16 – Curb and Gutter Barrier

Project Manager Contact Information:
Manager: ADAM ARMSTRONG
Cell Phone: 425-457-6758
E-Mail: adam.armstrong@pse.com

"Locates Required" Yes ☐ No ☐
"Flagging Required" Yes ☐ No ☐

For contacts below dial 1-888-CALL PSE (225-5773)

CALL 811 AT LEAST 2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF EXISTING FACILITIES

REV#	DATE	BY	DESCRIPTION
1			
2			
3			

REAL ESTATE/EASEMENT	PERMIT # -
N/A	BELLEVUE

FUNCTION	CONTACT	PHONE NO	DATE
PROJECT MGR	A.ARMSTRONG	425-395-6326	
ENGR - GAS			
DRAWN BY	C.WESTHOFF	425-748-6323	1/9/20
CHECKED BY	J.MOSS	425-748-6345	1/9/20
APPROVED BY	A.ARMSTRONG	425-395-6326	.
CP APPROVAL			.
PC APPROVAL	.	.	.
MAPPING			

COUNTY	Emer Sect	GAS WK CTR
KING	24	CSPFGPM
1/4 SEC	OP MAP	PLAT MAP
NE-20-24-05	196.080	198.083

GRID NUMBER:_____

JOINT FACILITIES ARRANGEMENTS

UTILITIES	N/A	N/A	N/A	N/A
CONTACT	N/A	N/A	N/A	N/A
PHONE#	N/A	N/A	N/A	N/A

PUGET SOUND ENERGY

DESIGNED BY PSE

SUSAN LONG
2" MPE IP MAIN EXTENSION
4885 LAKEHURST LANE, BELLEVUE WA 98006

SAP Sup Order Nbr 107059266
Drawing Number

SCALE	PAGE
N/A	2/3

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BMP C235: Straw Wattles BMP: C235

Purpose:

Straw wattles are temporary erosion and sediment control barriers consisting of straw that is wrapped in biodegradable tubular plastic or similar encasing material. They reduce the velocity and can spread the flow of rill and sheet runoff, and can capture and retain sediment. Straw wattles are typically 8 to 10 inches in diameter and 25 to 30 feet in length. The wattles are placed in shallow trenches and staked along the contour of disturbed or newly constructed slopes. See Figure 4.21 for typical construction details.

Conditions of Use:

- Disturbed areas that require immediate erosion protection.
- Exposed soils during the period of short construction delays, or over winter months.
- On slopes requiring stabilization until permanent vegetation can be established.
- Straw wattles are effective for one to two seasons.
- If conditions are appropriate, wattles can be staked to the ground using willow cuttings for added revegetation.
- Rilling can occur beneath wattles if not properly entrenched and water can pass between wattles if not tightly abutted together.

Design Criteria:

- It is critical that wattles are installed perpendicular to the flow direction and parallel to the slope contour.
- Narrow trenches should be dug across the slope on contour to a depth of 3 to 5 inches on clay soils and soils with gradual slopes. On loose soils, steep slopes, and areas with high rainfall, the trenches should be dug to a depth of 5 to 7 inches, or 1/2 to 2/3 of the thickness of the wattle.
- Start building trenches and installing wattles from the base of the slope and work up. Excavated material should be spread evenly along the uphill slope and compacted using hand tamping or other methods.
- Construct trenches at contour intervals of 3 to 30 feet apart depending on the steepness of the slope, soil type, and rainfall. The steeper the slope the closer together the trenches. Install the wattles snugly into the trenches and abut tightly end to end. Do not overlap the ends.
- Install stakes at each end of the wattle, and at 4-foot centers along entire length of wattle. If required, install pilot holes for the stakes using a straight bar to drive holes through the wattle and into the soil.
- At a minimum, wooden stakes should be approximately 3/4 x 3/4 x 24 inches. Willow cuttings or 3/8-inch rebar can also be used for stakes.

Maintenance Standards:

- Stakes should be driven through the middle of the wattle, leaving 2 to 3 inches of the stake protruding above the wattle.
- Wattles may require maintenance to ensure they are in contact with soil and thoroughly entrenched, especially after significant rainfall on steep sandy soils.
- Inspect the slope after significant storms and repair any areas where wattles are not tightly abutted or water has scoured beneath the wattles.

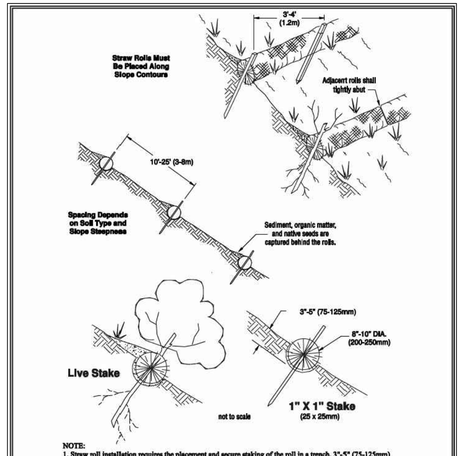

Figure 4.21 – Straw Wattles

EXCAVATION & FILL NOTE:

CONSTRUCTION METHOD WILL BE HOLE HOG. LAND DISTURBANCE DURING EXCAVATION WILL BE 11.9 CUBIC YARDS.

LAND DISTURBANCE DURING FILL WILL BE 11.9 CUBIC YARDS.

TOTAL DISTURBANCE WILL BE 23.8 CUBIC YARDS.

Project Manager Contact Information:
Manager: ADAM ARMSTRONG
Cell Phone: 425-457-6758
E-Mail: adam.armstrong@pse.com

"Locates Required" Yes ☐ No ☐
"Flagging Required" Yes ☐ No ☐

For contacts below dial 1-888-CALL PSE (225-5773)

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REAL ESTATE/EASEMENT	PERMIT #__-__
N/A	BELLEVUE

REV#	DATE	BY	DESCRIPTION
3			
2			
1			

FUNCTION	CONTACT	PHONE NO	DATE
PROJECT MGR	A.ARMSTRONG	425-395-6326	
ENGR - GAS			
DRAWN BY	C.WESTHOFF	425-748-6323	1/9/20
CHECKED BY	J.MOSS	425-748-6345	1/9/20
APPROVED BY	A.ARMSTRONG	425-395-6326	.
CP APPROVAL			.
PC APPROVAL	.	.	.
MAPPING			

COUNTY	Emer Sect	GAS WK CTR
KING	24	CSPFGPM
1/4 SEC	OP MAP	PLAT MAP
NE-20-24-05	196.080	198.083

GRID NUMBER:_____

JOINT FACILITIES ARRANGEMENTS

UTILITIES	N/A	N/A	N/A	N/A
CONTACT	N/A	N/A	N/A	N/A
PHONE#	N/A	N/A	N/A	N/A

PUGET SOUND ENERGY

DESIGNED BY PSE

SUSAN LONG

2" MPE IP MAIN EXTENSION

4885 LAKEHURST LANE, BELLEVUE WA 98006

SAP Sup Order Nbr 107059266

Drawing Number

SCALE N/A

PAGE 3/3

BOM for WO: 107059266

ITEM	QTY	DESCRIPTION	PART NO.
4	1	CORROSION PROTECTION BOX FOR TEST STATIONS	5000307
3	1	CAP 2" MDPE	5200649
2	195	PIPE 2" COIL MED DENSITY	7000261
1	195	WIRE #14 COPPER TRACER	8500940